# **Schematic Package Supplement to**

# ATARI SYSTEM I

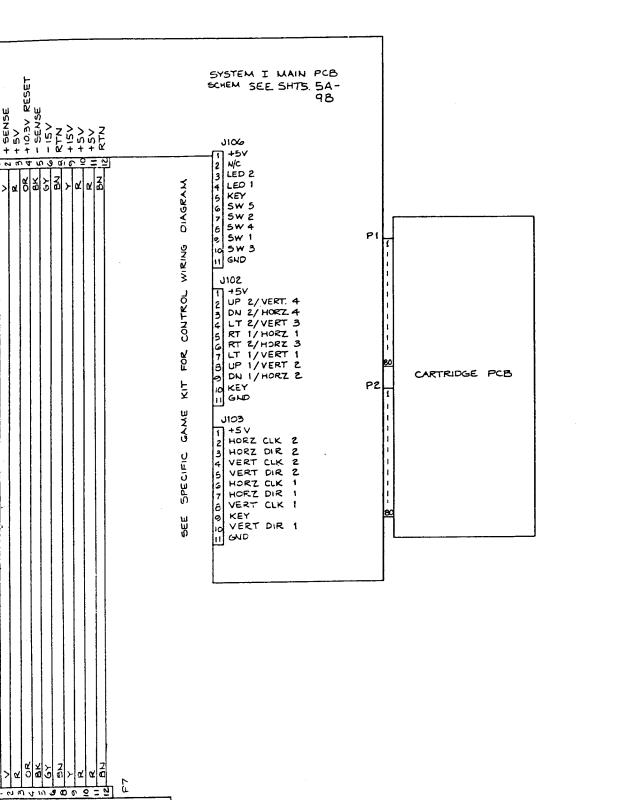
**Operators Manual** 

This staple temporarily holds the schematic package together. Remove the staple before using these schematics.



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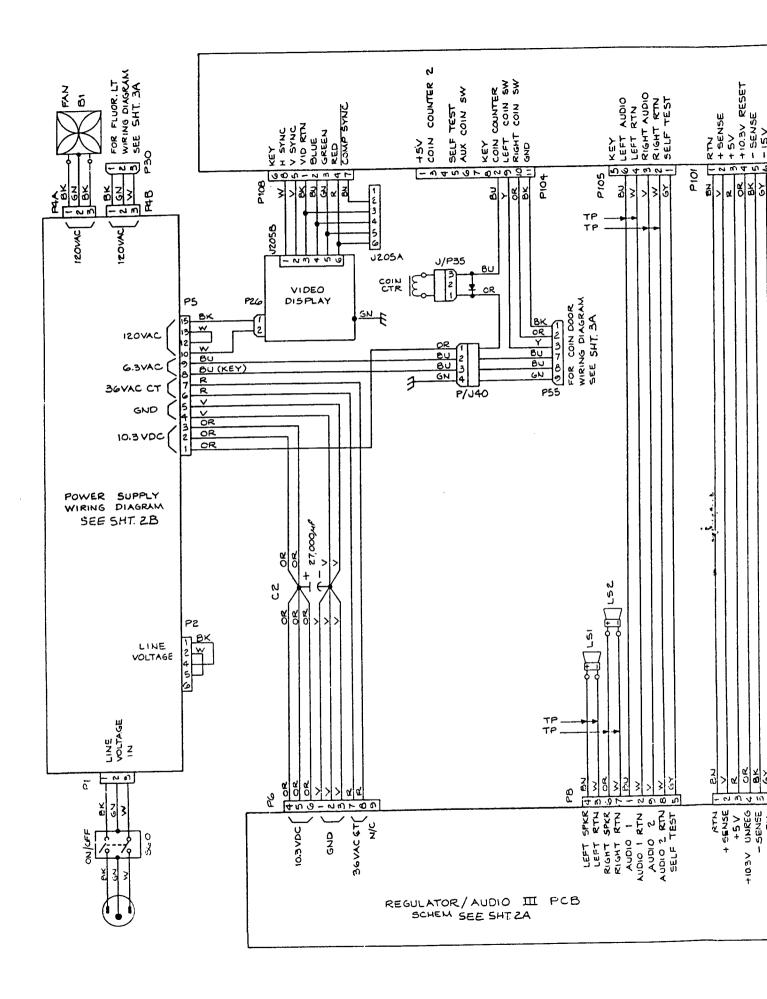
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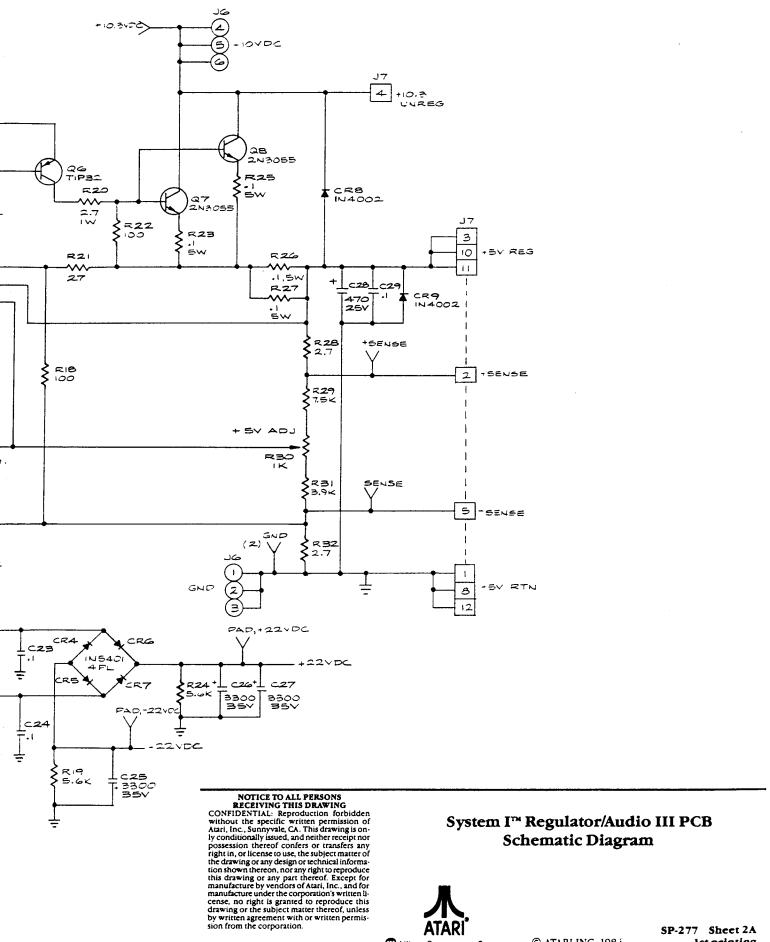


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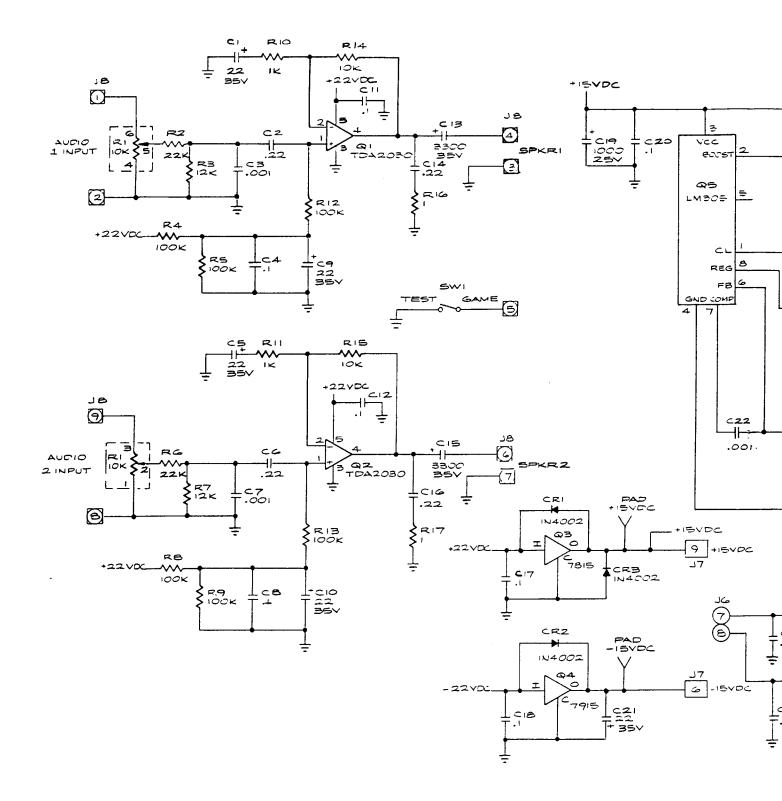
# ^ System I™ Main Wiring Diagram

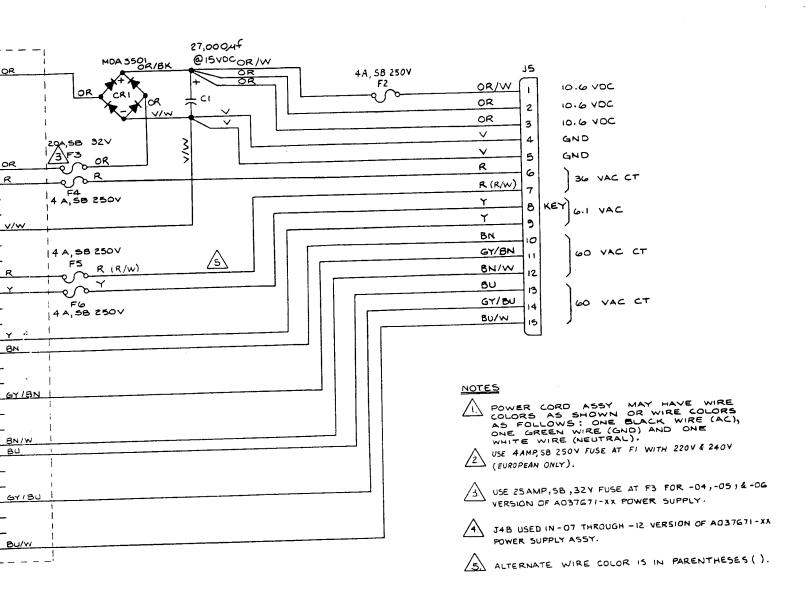








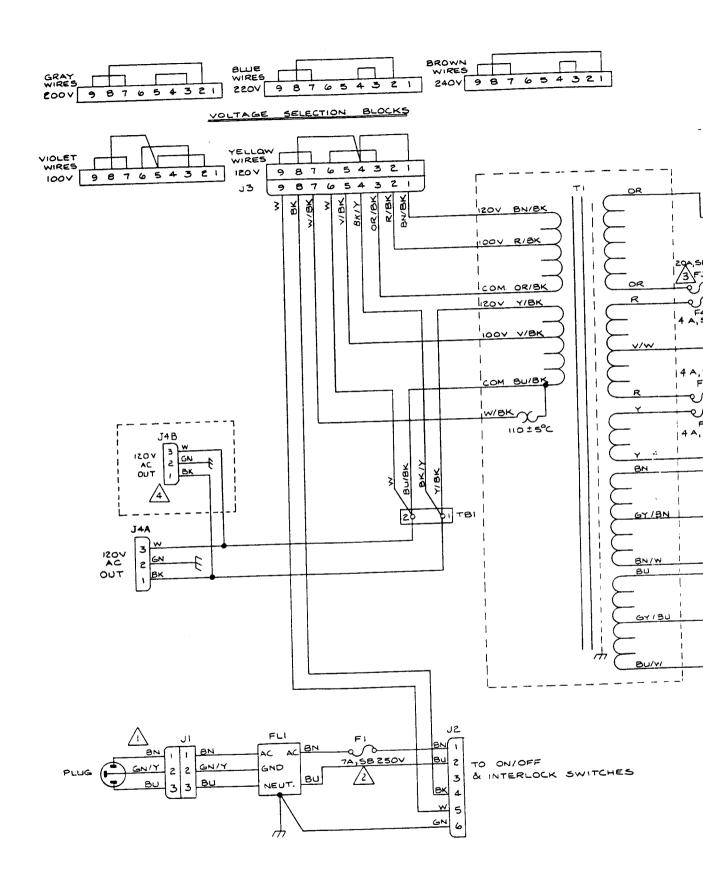


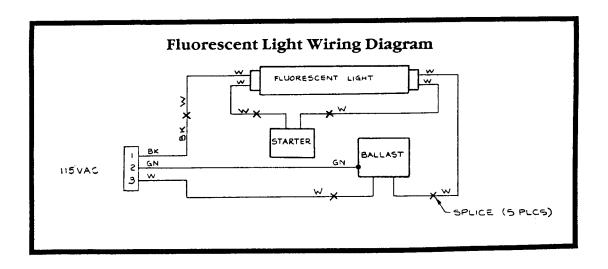


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# System I™ Color Raster Power Supply Wiring Diagram



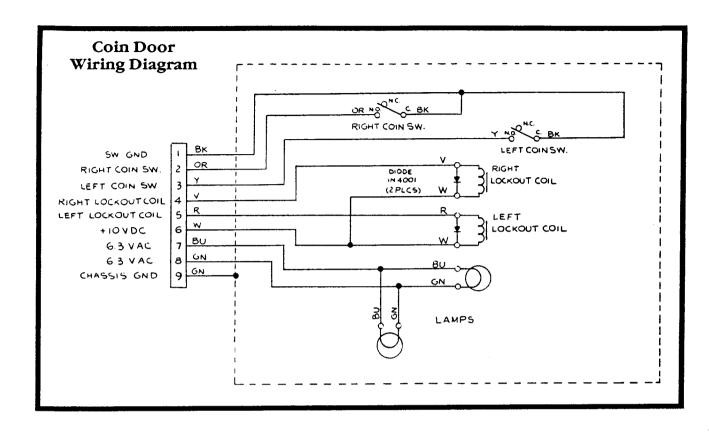




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# System I™ Game Interfaces





AL 10	LIN A9	ES A8	<b>A</b> 7	<b>A</b> 6	A5	A4	A3	A2	<b>A</b> 1	AO	READ/ WRITE	D15	D14	D13	D12	D11	DATA D10	A BU	IS SI D8	GNA D7	D6	D5	D4	D3	D2	D1	D0
A	A	A	A	A	A	A	A	A	A	A	R	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
A	A	A	A	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
0	0	0	0	0	0	0	0	0	0	0	w								D	D	D	D	D	D	D D	D D	D D
0 0	0	0	0	0	0	0	0	0	0	0	W R								Ď	D D	D D	D D	D D	D D	D	D	D
0	0	0	0	0	0	0	0	0 0	0	0	W W									D	D						
0 0	0	0	0	0	0	0	0	0	0	ŏ	w											D		D	_		
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0	0	0	0	0	0	0	0	0	0	0	W																
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A	A	A	A	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
0	0	0	0	A	A	A	A	A	A	A	R/W R/W	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D
0 0	0	0 1	1 0	A A	A A	A A	A A	A A	A A	A A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
0	0	1	1	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D D	D D	D D	D D	D D	D D
0	1	0	0	A	A	A	A A	A A	A A	A A	R/W R/W	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D	D	D	D	D	D
0	1	0	1 0	A A	A A	A A	A	A	A	A	R/W	Ď	Ď	D	D	D	D	D	D	D	D	D	D	D	D	D	D
0	î	1	1	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
1	1	0	0 1	A	A	A A	A A	A A	A A	A A	R/W R/W	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D
1 1	1	0	0	A A	A A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
1	1	1	1	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
A	A 0	A A	A A	A A	A A	A A	A A	A A	A A	A A	R/W R/W	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D
0	1	A	A	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
1	0	A	A	A	A	A	A	A	A	A	R/W R/W	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D	D D
l A	I A	0 A	0 <b>A</b>	0 A	0 A	A A	A A	A A	A A	A A	R	D		D	_	_	~	_	_	D	D	D	D	D	D	D	D
0	0	0	0	0	0	0	0	A	A	A	R									D D	D D	D D	D D	D D	D D	D D	D D
0	0	0	0	0	0	0 1	A 0	<b>A</b> 0	A 0	A 0	R R													_	_	_	
0	0	0	0	0	0	0	0	0	0	0	R									D	D						
0	0	0	0	0	0 0	0	0	0 0	0	0	R R										U	D					
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0	0	0	0	0	0	0	0	0	0	0	R R													D	D		
0	0	0	0	0	0	0	0	0	0	0	R															D	
0	0	0	0	0	0	0	0	0	0	0	R R									D	D	D	D	D	D	D	D D
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# System I™ Video Microprocessor Memory Map



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# Video Microproces

FUNCTION	HEXA- DECIMAL ADDRESS	A23	A22	A21	A20	A19	A18	A17	<b>A</b> 16	AD A15	DRI A14	ESS A13	BUS A12	SIG A11	NAI A10	. LI
Program ROM	000000-087FFF	0	0	0	0	A	A	A	A	A	A	A	A	A	A	A
Program RAM	400000-401FFF	0	1	0	0	0	0	0	0	0	0	0	A	A	A	A
Playfield Horizontal Scroll	800000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Playfield Vertical Scroll	820000	1	0	0	0	0	0	1	0	0	0	0	0	0	0	(
Playfield Special Priority Color	840000	1	0	0	0	0	1	0	0	0	0	0	0	0	0	(
Sound Processor Reset	860000	1	0	0	0	0	1	1	0	0	0	0	0	0	0	(
Trak-Ball Test		1	0	0	0	0	1	1	0	0	0	0	0	0	0	(
Motion Object Parameter Buffer Select		1	0	0	0	0	1	1	0	0	0	0	0	0	0	(
Playfield ROM Bank Select		1	0	0	0	0	1	1	0	0	0	0	0	0	0	(
Trak-Ball Resolution and Test LED		1	0	0	0	0	1	1	0	0	0	0	0	0	0	1
Alphanumerics ROM Bank Select	860000	1	0	0	0	0	1	1	0	0	0	0	0	0	0	(
Watchdog	880000	1	0	0	0	1	0	0	0	0	0	0	0	0	0	(
Vertical Blank IRQ Acknowledge	8A0000	1	0	0	0	1	0	1	0	0	0	0	0	0	0	-
Unlock	8C0000	1	0	0	0	1	1	0	0	0	0	0	0	0	0	-
Cartridge External	900000-9FFFFF	1	0	0	1	Α	A	A	Α	A	A	A	A	A	A	
Playfield RAM	A00000-A01FFF	1	0	1	0	0	0	0	0	0	0	0	A	A	A	1
Motion Object Vertical Position	A02000-A0207F	1	0	1	0	0	0	0	0	0	0	1	0	0	0	
Motion Object Picture	A02080-A020FE	7 1	0	1	0	0	0	0	0	0	0	1	0	0	0	
Motion Object Horizontal Position	A02100-A0217F	1	0	1	0	.0	0	0	0	0	0	1	0	0	0	
Notion Object Link	A02180-A021FF	1	0	1	0	0	0	0	0	0	0	1	0	0	0	
Motion Object Vertical Position	A02200-A0227E	: 1	0	1	0	0	0	0	0	0	0	1	0	0	0	
Motion Object Picture	A02280-A022FI	- 1	0	1	0	0	0	0	0	0	0	1	0	0	0	
Motion Object Horizontal Position	A02300-A0237E	7 1	0	1	0	0	0	0	0	0	0	1	0	0	0	
Motion Object Link	A02380-A023FI	7 1	0	1	0	0	0	0	0	0	0	1	0	0	U	
Motion Object Vertical Position	A02E00-A02E7	F 1	0	1	0	0	0	0	0	0	0	1	0	1	1	
Motion Object Picture	A02E80-A02EF	F 1	0	1	0	0	0	0	0	0	0	1	0	1	1	
Motion Object Horizontal Position	A02F00-A02F7I	7 1	0	1	0	0	0	0	0	0	0	1	0	1 1	1	
Motion Object Link	A02F80-A02FF	F 1	0	1	0	0	0	0	0	0	0	1	U	1	1	
Alphanumerics RAM	A03000-A03FF		0	1	0	0	0	0	0	0	0	1	1	A 0	A 0	
Alphanumerics Color RAM	B00000-B001F1	7 1	0	1	1	0	0	0	0	0	0	0	0	0	0	
Motion Object Color RAM	B00200-B003F	F 1	0	1	1	0	0	0	0	0	0	0	0	0	1	
Playfield Color RAM	B00400-B005F	F 1	0	1	1	0	0	0	0	0	0	0	0	0	1	
Translucent Color RAM	B00600-B00611	F 1	0	1	1	0	0	0	0	0	0	0	0		A	
EEPROM -	F00000-F00FF1	- 1	1	1	1	0	0	0	0	0	0	0	0	A 0	0	
Trak-Ball	F20000-F20000	5 1	1	1	1	0	0	1	0	0	0	0	0	_	-	
Analog Joystick	F40000-F40001		1	1	1	0	1	0	0	0	0	0	0	0	0	
Analog Joystick IRQ Disable	F40010	1	1	1	1	0	1	0	0	0	0	0	0	0	0	
Output Buffer Full (@ FE0000)	F60000	1	1	1	1	0	1	1	0	0	0	0	0	0	0	
Self-Test	F60000	1	1	1	1	0	1	1	0	0	0	0	0	0	0	
Switch Input	F60000	1	1	1	1	0	1	1	0	0	0	0	0		0	
ertical Blank	F60000	1	1	1	1	0	1	1	0	0	0	-	0		0	
Switch Input	F60000	1	1	1	1	0	1	1	0	0	0	0	-		0	
witch Input	F60000	1	1	1	1	0	1	1	0	0	0	0			0	
witch Input	F60000	1	1	1	1	0	1	1	0	0	0	0			0	
Switch Input	F60000	1	1	1	1	0	1	1	0	0	0	0			0	
Read Sound Processor (6502)	FC0000	1	1	1	1	1	1	0	0	0	0	0			0	
Write Sound Processor (6502)	FE0000	1	1	1	1	1	1	1	0	0	0	0	0	0	U	

# oprocessor Memory Map

s <b>B</b> US	SIG	NAL	LIN	ES					READ/ DATA BUS SIGNAL LINE									
9 A8					<b>A3</b>	A2	A1	A0	WRITE	<b>D7</b>	D6	D5	D4	D3	D2	D1	D0	
. A	A	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	
. A	A	Α	A	A	A	A	A	Α	R/W	D	D	D	D	D	D	D	D	
0	0	0	0	0	0	0	0	Α	R/W	. D	D	D	D	D	D	D	D	
0	0	0	0	1	0	0	0	0	R	D	D	D	D	D	D	D	D	
0	0	0	0	1	0	0	0	0	W.	D	D	D	D	D	D	D	D	
0	0	0	1	0	0	0	0	0	R	D								
0	0	0	0	1	0	0	0	0	R				D					
0	0	0	0	1	0	0	0	0	R					D				
0	0	0	0	1	0	0	0	0	R						D			
0	0	0	0	1	0	0	0	0	R							D		
0	0	0	0	1	0	0	0	0	R								D	
0	0	0	1	0	0	0	0	0	W.								D	
0	0	0	1	0	0	l	0	0	Μ.								D	
0	0	0	1	0	0	1	0	1	W'								D	
0.	0	0	1	0	0	1	1	0	W.	,							D	
0	0	0	1	0	0	1	1	1	W'								D	
0	0	1	1	1	Α	A	A	Α	R/W	D	D	D	D	D	D	D	D	
A٩	A	Α	Α	Α	A	A	Α	A	R	D	D	D	D	D	D	D	D	

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# System $I^{\scriptscriptstyle\mathsf{TM}}$ I/O and Sound Microprocessor Memory Map



SP-276 Sheet 4A 1st printing

# I/O and Sound Micropa

	HEXA-						DDR.	ree	DIT
FUNCTION	DECIMAL ADDRESS	A15	A14	A13	A12		A10		
Program RAM	0000-0FFF	0	0	0	0	A	A	A	A
Cartridge External	1000-1FFF	0	0	0	1	A	A	A	A
Music	1800-1801	0	0	0	1	1	0	0	0
Read 68000 Port	1810	0	0	0	1	i	0	0	0
Write 68000 Port	1810	0	0	0	1	1	0	0	0
Self-Test	1820	0	0	0	1	1	0	0	0
Buffer Output Full (@ 1810)		0	0	0	1	1	0	0	0
Data Available (@ 1810)		0	0	0	1	1	0	0	0
Auxiliary Coin Switch		0	0	0	1	1	0	0	0
Left Coin Switch		0	0	0	1	1	0	0	0
Right Coin Switch	,	0	0	0	1	1	0	0	0
Music Reset	1820	0	0	0	1	1	0	0	0
Light-Emitting Diode	1824	0	0	0	1	1	0	0	0
Light-Emitting Diode	1825	0	0	0	1	1	0	0	0
Right Coin Counter	1826	0	0	0	1	1	0	0	0
Left Coin Counter	1827	0	0	0	1	1	0	0	0
Sound Effects	1870-187F	0	0	0	1	1	0	0	0
Program ROM	4000-FFFF	A	A	A	A	A	A	A	A

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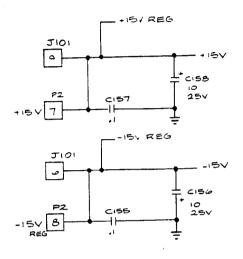
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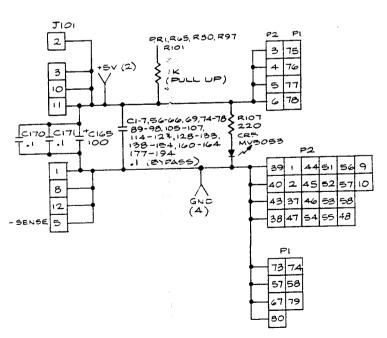
System I™ Main PCB Schematic Diagram



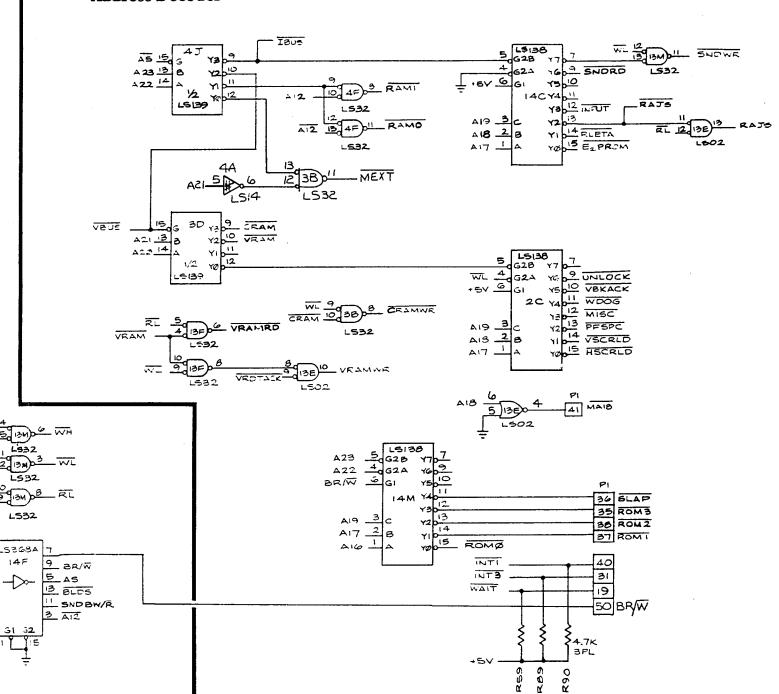
SP-277 Sheet 4B 1st printing

# **Power Input**





### **Address Decoder**



# Watchdog and Reset

# 54 **೨೯೨೦ ೩**೯ 2 12 SYSRES

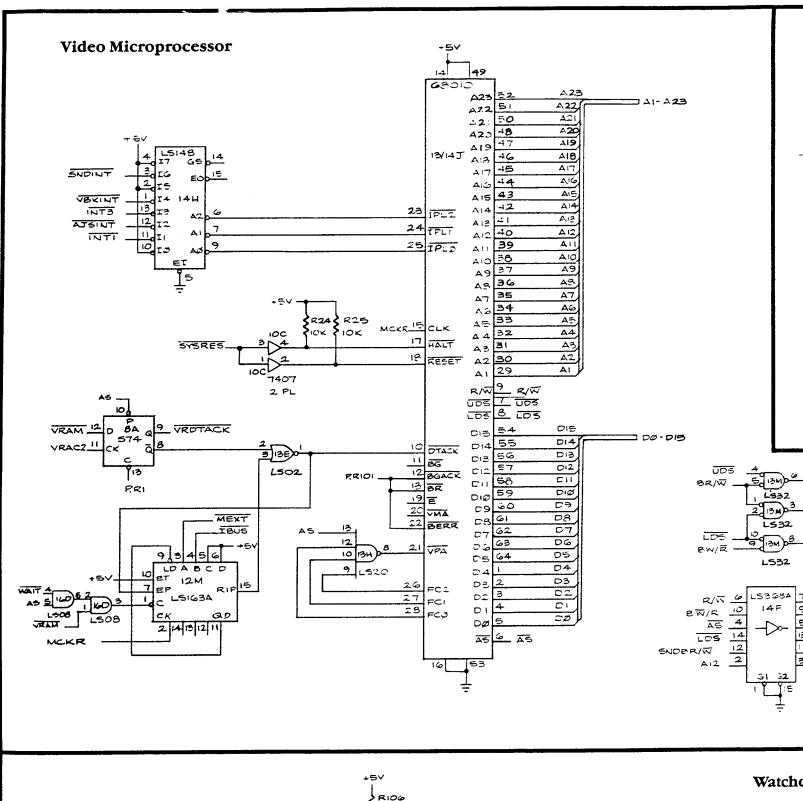
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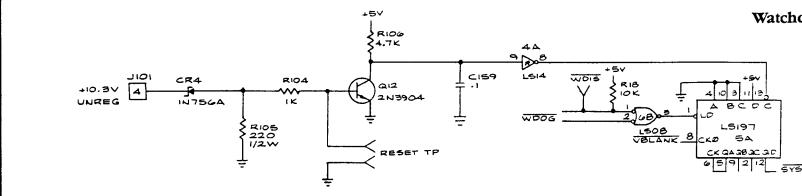
### System I™ Main PCB Schematic Diagram

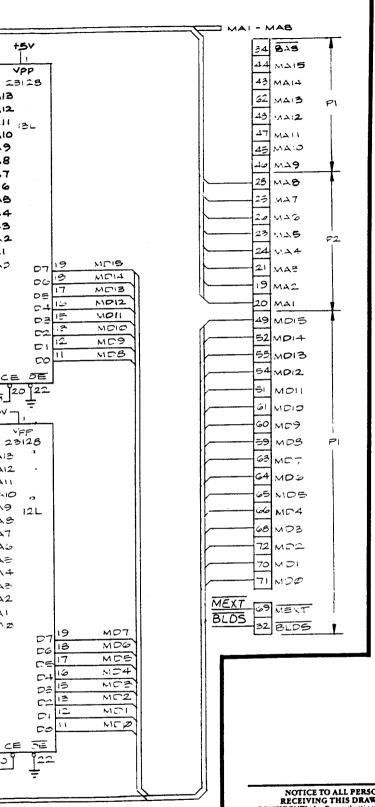


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SP-277 Sheet 5A 1st printing







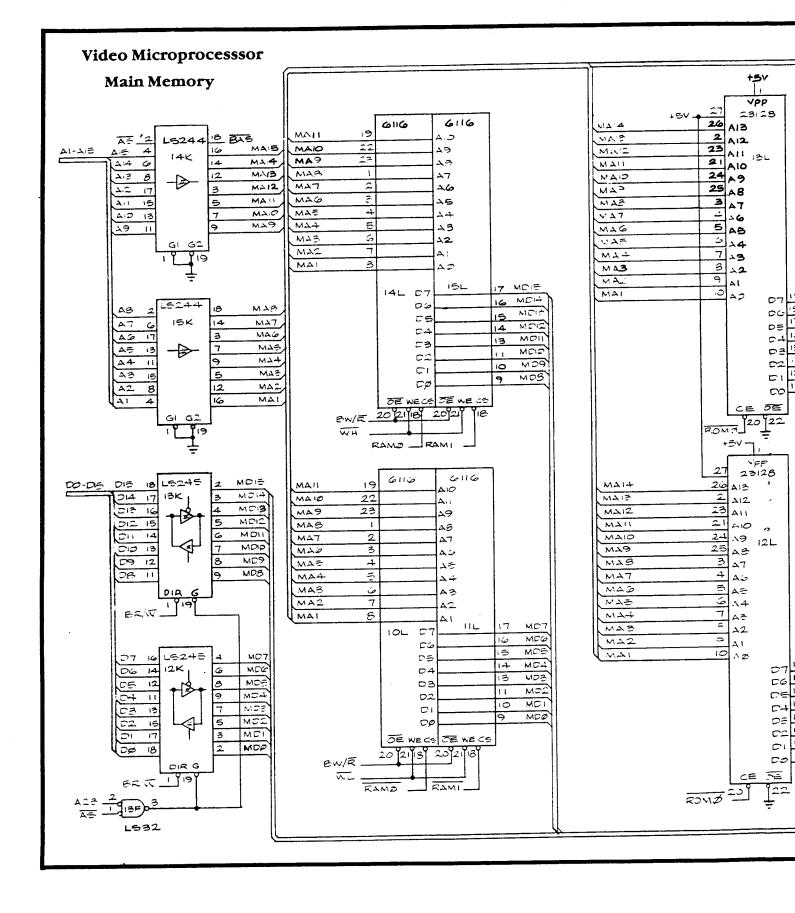
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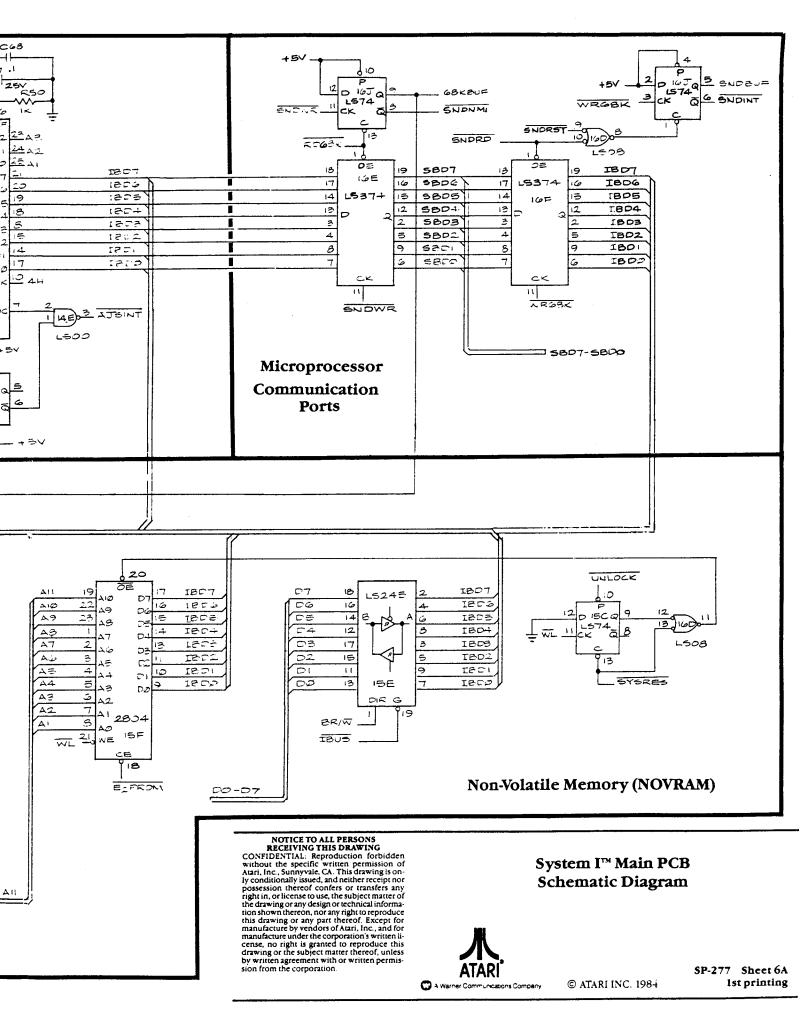
## System I™ Main PCB Schematic Diagram

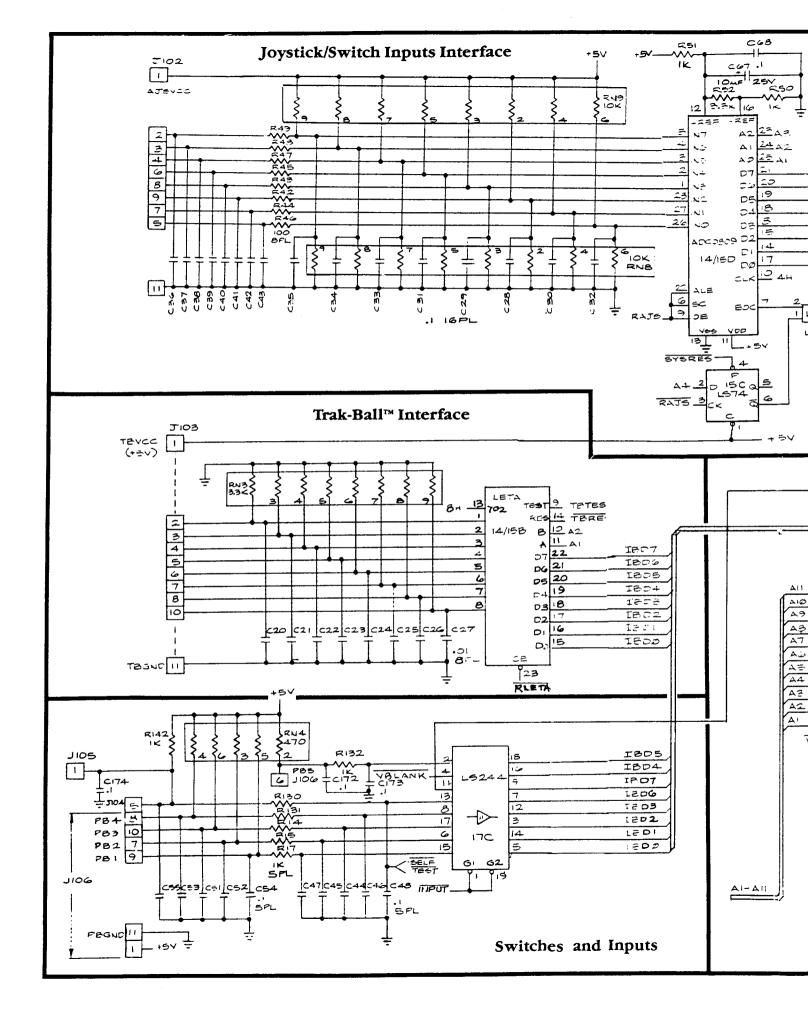


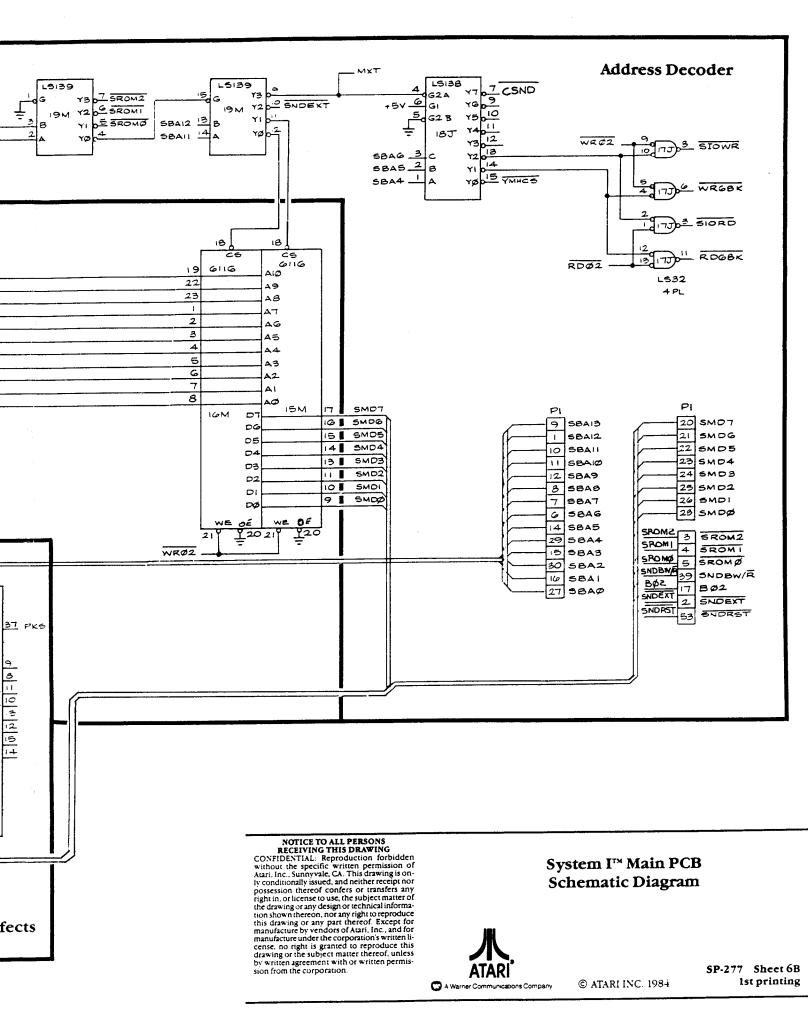
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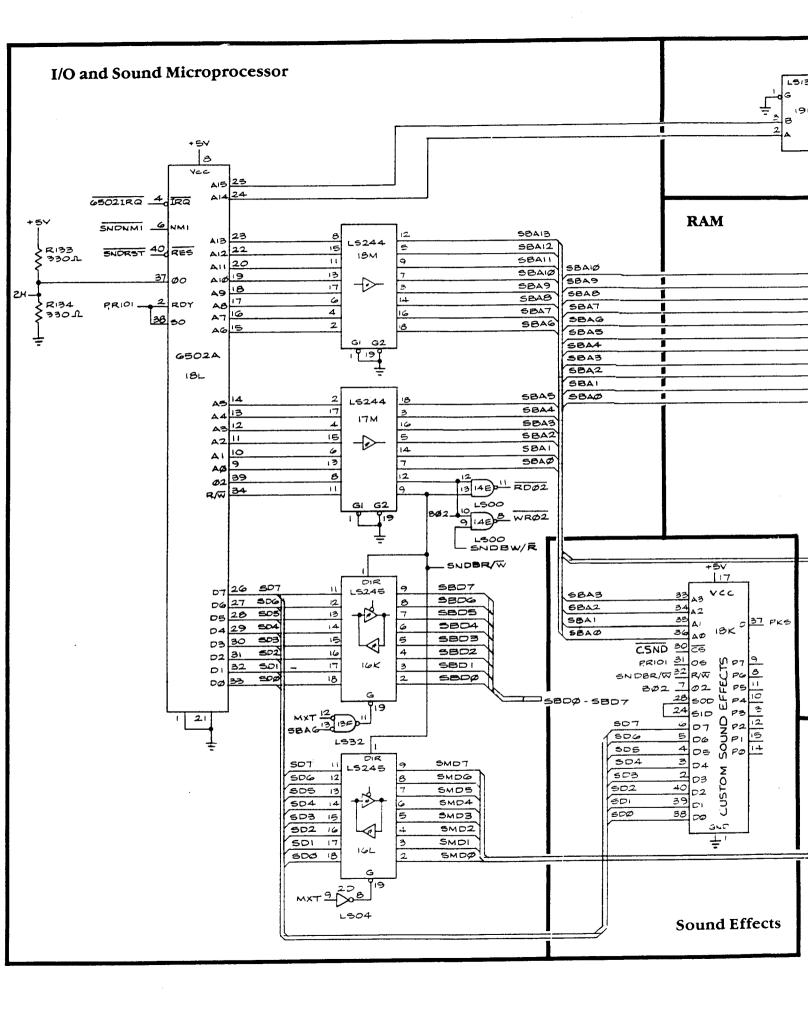
SP-277 Sheet 5B 1st printing

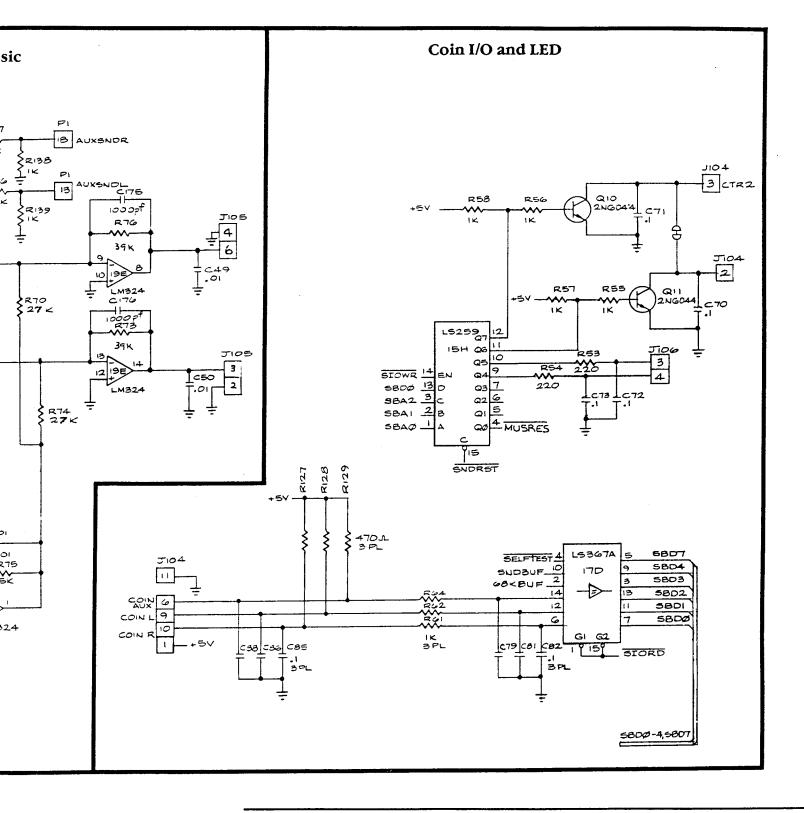








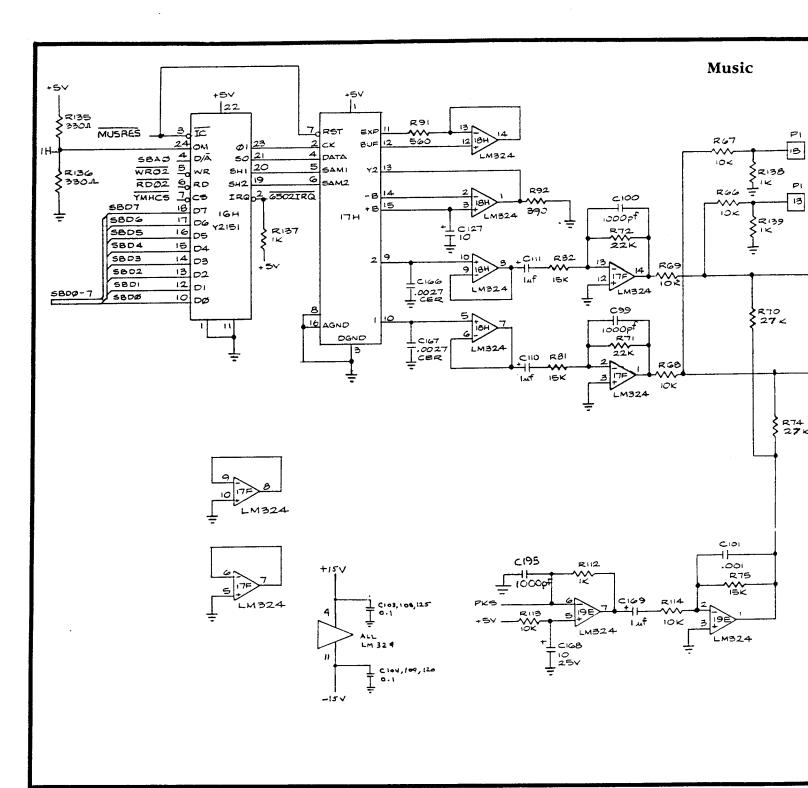


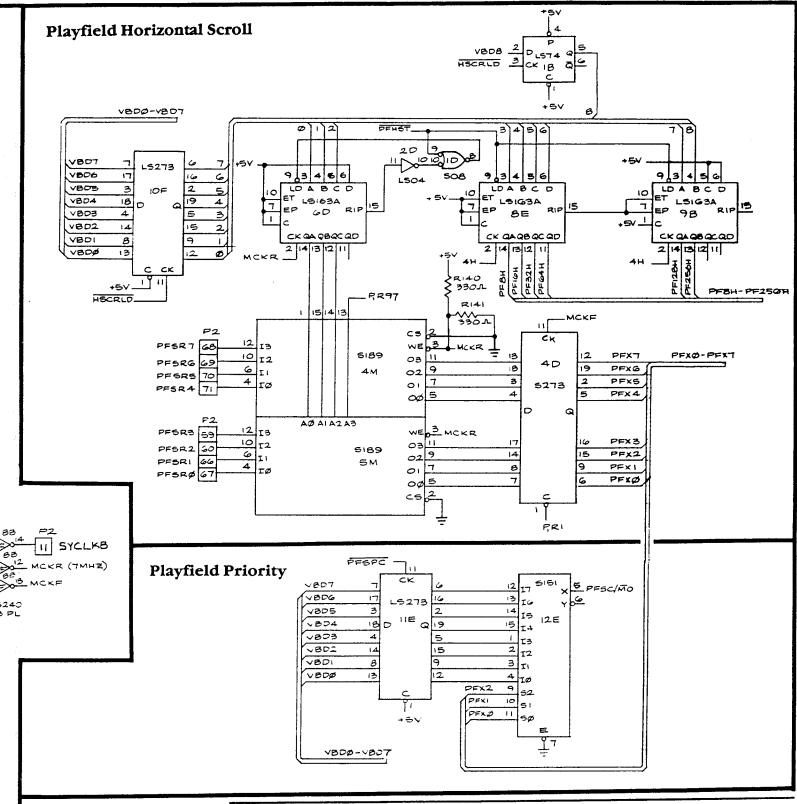


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# System I™ Main PCB Schematic Diagram







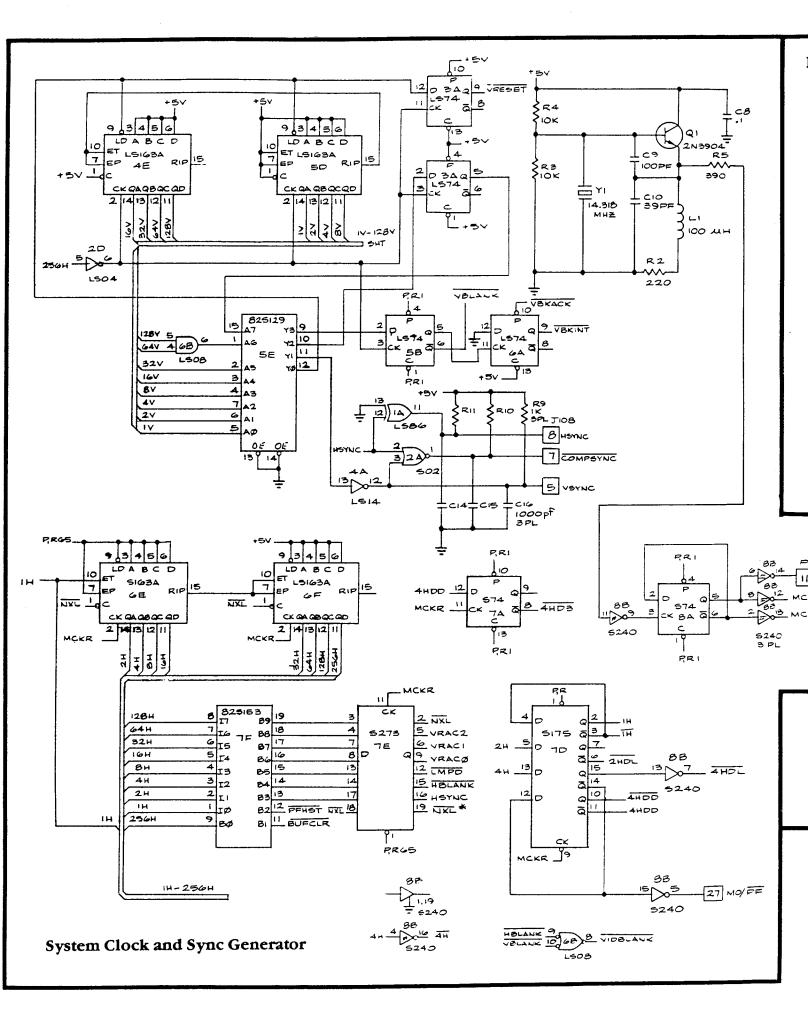
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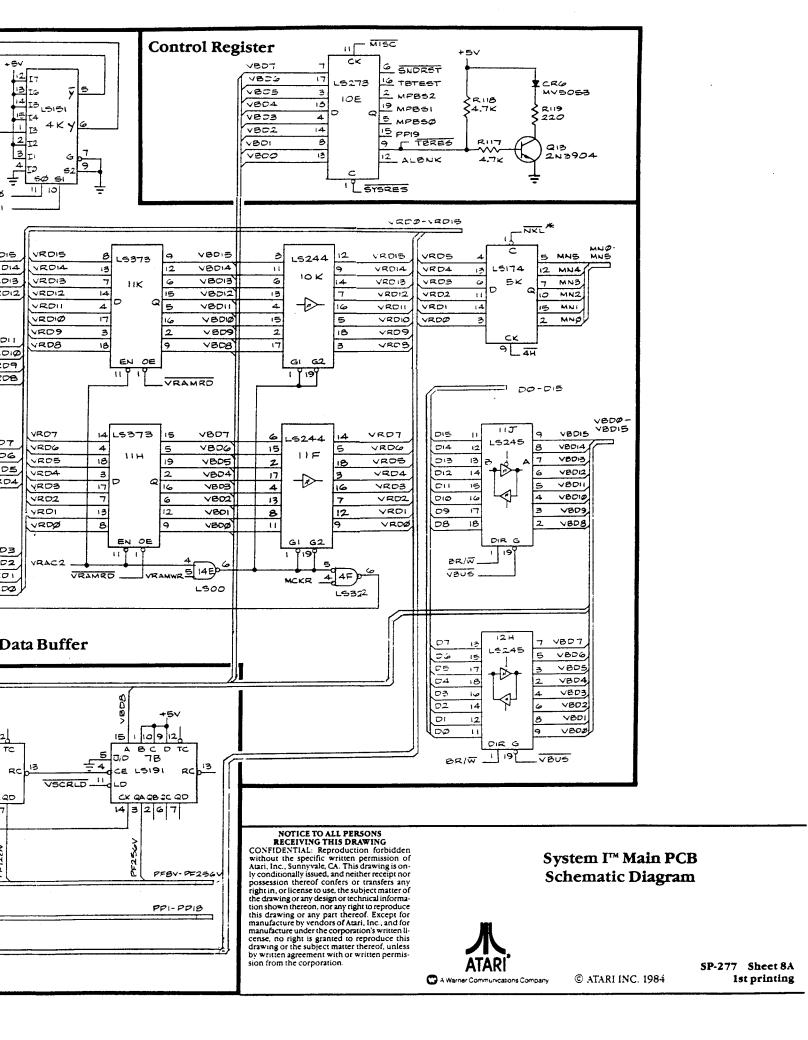
### System I™ Main PCB Schematic Diagram

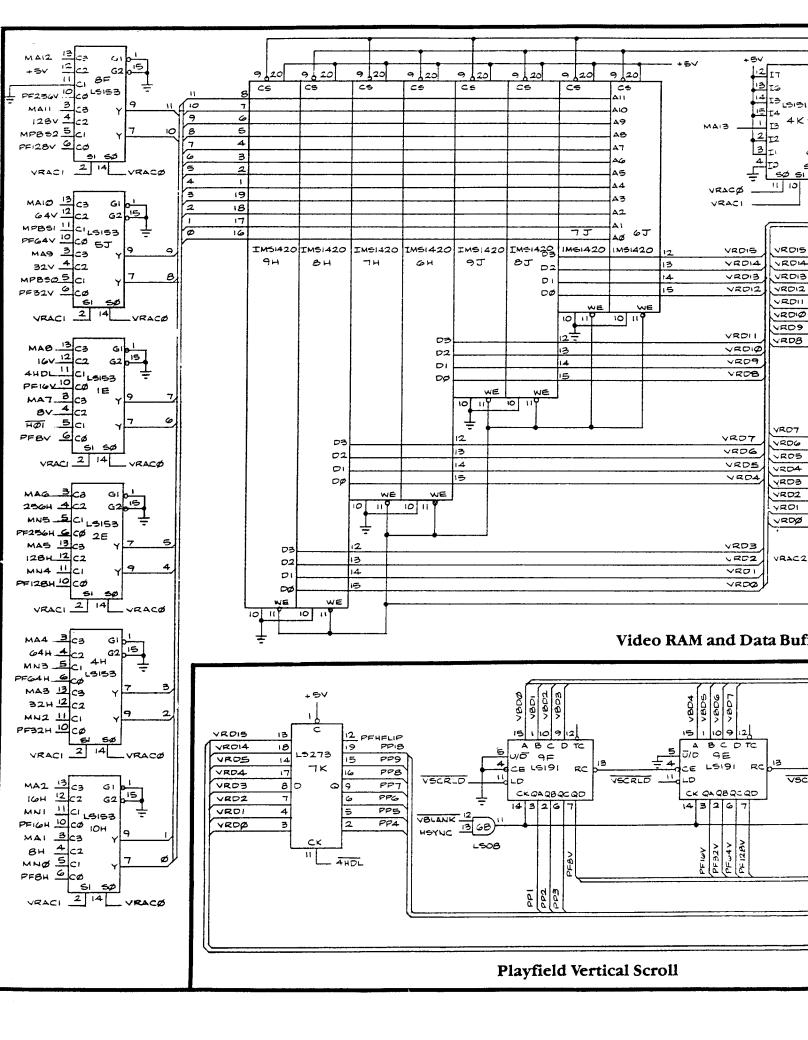


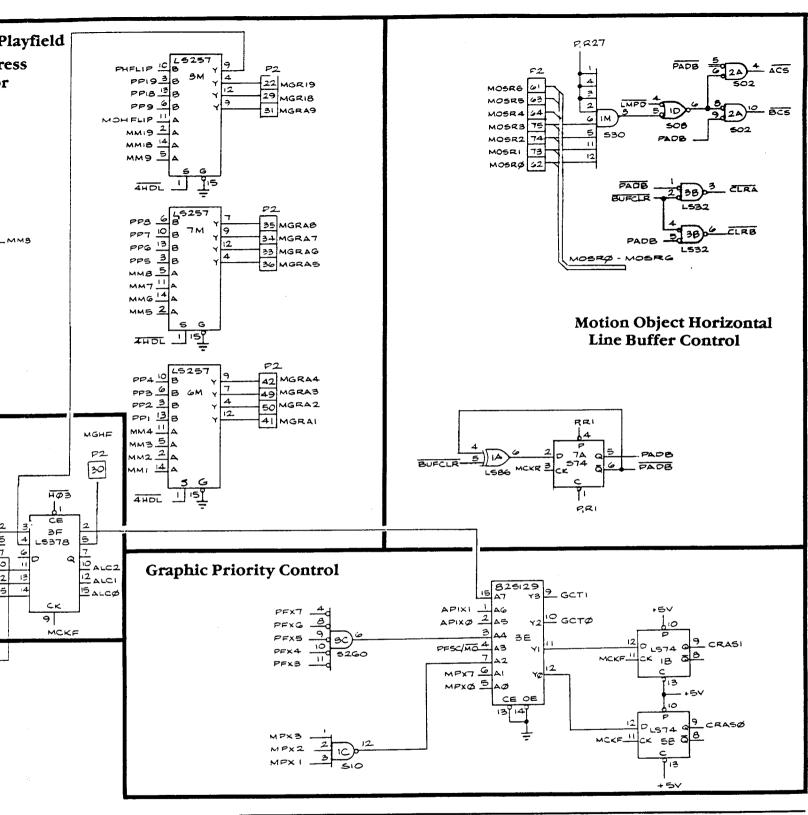
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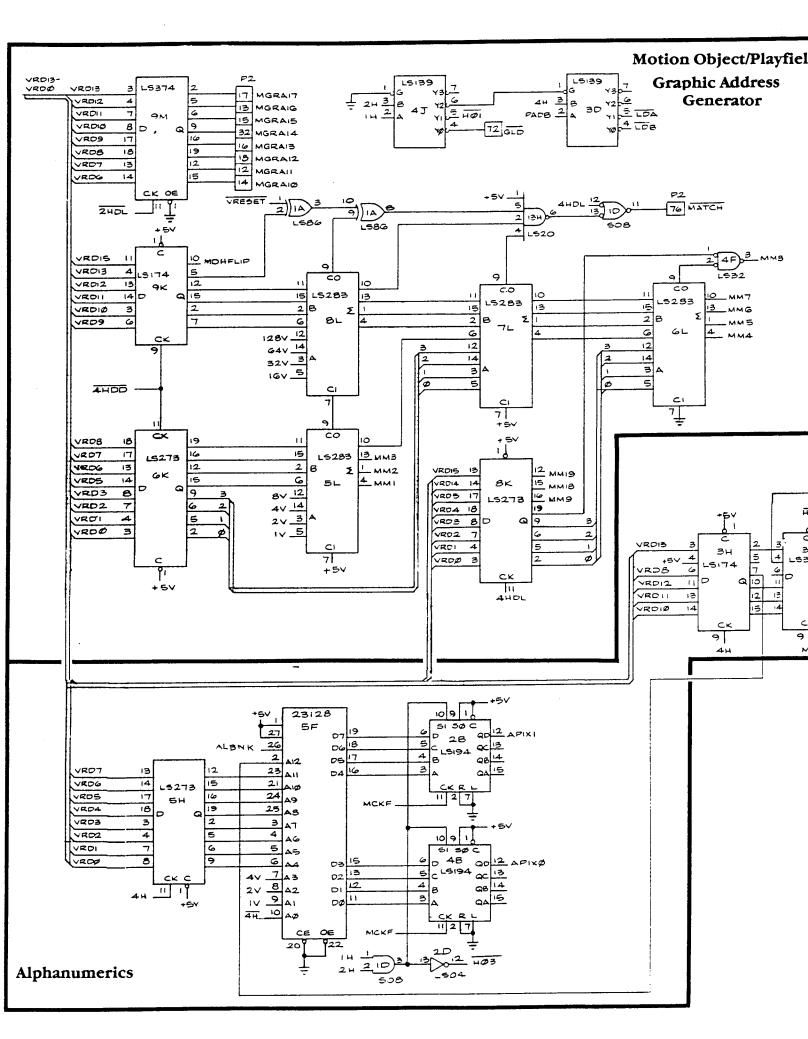


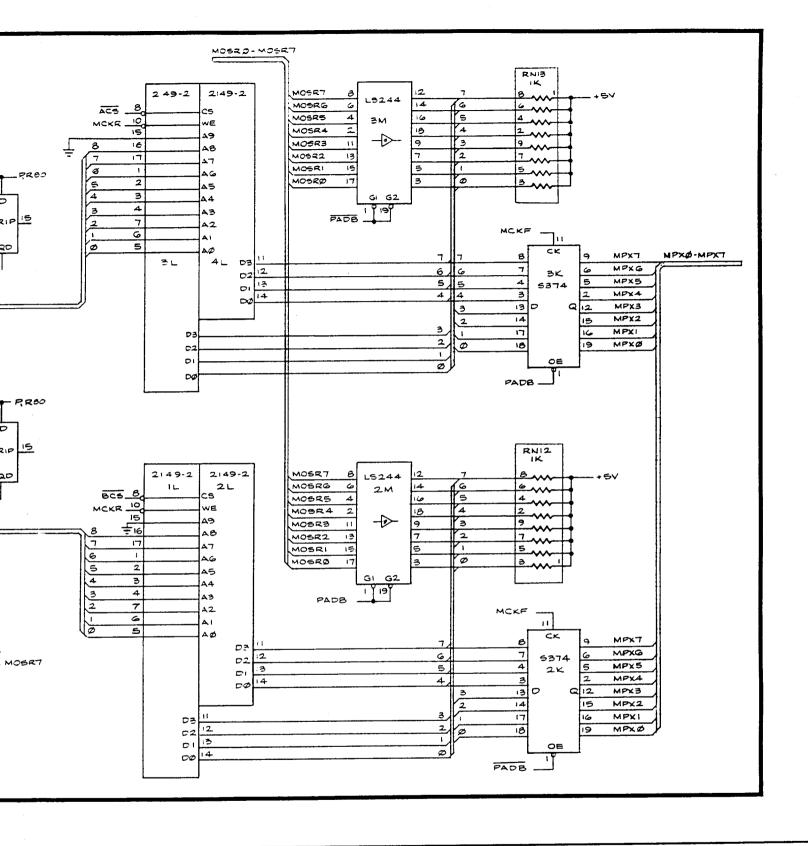


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### System I™ Main PCB Schematic Diagram







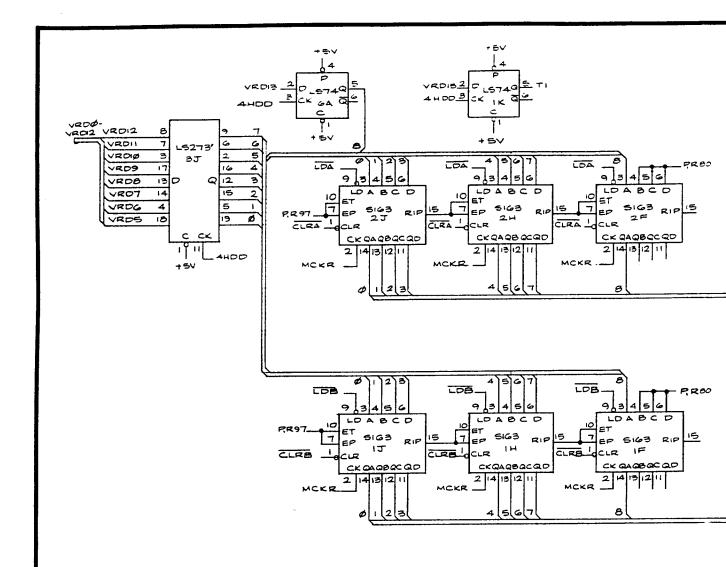
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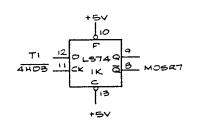
# System I™ Main PCB Schematic Diagram



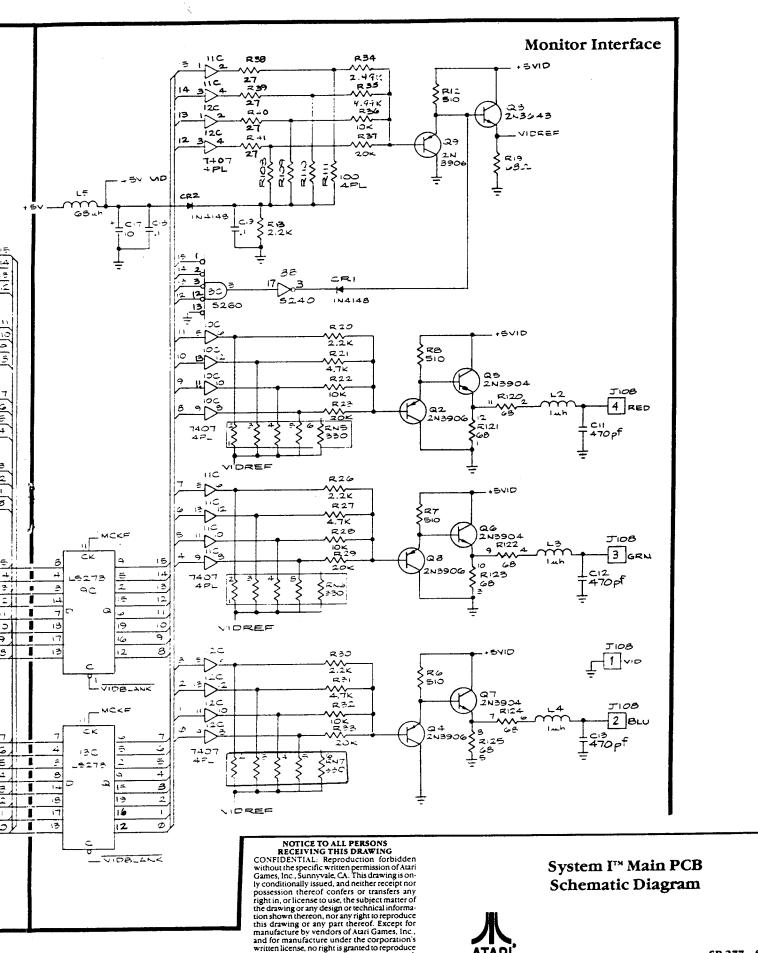
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Motion Object Horizontal Line Buffer



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